

What is claimed is:

- 1 1. A method of transmitting pilot tones in a multi-sector cell including at least a first sector  
2 and a second sector, the second sector being located adjacent said first sector, the method  
3 comprising:  
4 transmitting, using a first tone, in said first sector during a first symbol time a first pilot  
5 signal having a first pre-selected transmission power; and  
6 transmitting, using said first tone, in said second sector during a second symbol time,  
7 which overlaps said first symbol time, a second pilot signal having a second pre-selected  
8 transmission power which is different from said first pre-selected transmission power.
- 1 2. The method of claim 1, wherein the second pre-selected transmission power is zero, said  
2 second pilot being a NULL pilot signal.
- 1 3. The method of claim 1, further comprising:  
2 transmitting, using a second tone, in said first sector during a third symbol time a third  
3 pilot signal having a third pre-selected transmission power; and  
4 transmitting, using said second tone, in said second sector during a fourth symbol time,  
5 which overlaps said third symbol time, a fourth pilot signal having a fourth pre-selected  
6 transmission power which is different from said third pre-selected transmission power.
- 1 4. The method of claim 3, wherein said second pre-selected transmission power and said  
2 third preselected transmission power are the same.
- 1 5. The method of claim 4, wherein said second pre-selected transmission power is zero,  
2 said second and third pilot signals being NULL pilot signals.
- 1 6. The method of claim 1,  
2 wherein said first and third symbol times are the same; and  
3 wherein said first and second tones are different.
- 1 7. The method of claim 1,  
2 wherein said first and third symbol times do not overlap; and

3 wherein said first and second tones are the same.

1 8. The method of claim 3, wherein further comprising:  
2 transmitting, using a third tone, in said first sector during a fifth symbol time a fifth pilot  
3 signal having a fifth pre-selected transmission power; and  
4 transmitting, using said third tone, in said second sector during a sixth symbol time,  
5 which overlaps said fifth symbol time, a sixth pilot signal having said fifth pre-selected  
6 transmission power.

1 9. The method of claim 8, wherein said second, third and fifth pre-selected transmission  
2 powers are the same.

1 10. The method of claim 9, wherein said second pre-selected transmission power is zero, the  
2 second, third, fifth and sixth pilot signals being NULL pilot signals.

1 11. The method of claim 8,  
2 wherein said first, second, and third tones are the same; and  
3 wherein said first, third and fifth symbol times are different.

1 12. The method of claim 8,  
2 wherein said first, third and fifth symbol times are the same; and  
3 wherein said first, second and third tones are different.

1 13. The method of claim 8, wherein said first, fourth and fifth pre-selected transmission  
2 powers are the same.

1 14. The method of claim 13,  
2 wherein said first, fourth and fifth pre-selected transmission powers are non-zero; and  
3 wherein said second and third pre-selected transmission powers are zero.

1 15. The method of claim 8, further comprising:  
2 periodically repeating each of said transmitting steps to form a pre-determined repeating  
3 sequence of said transmitting steps.

1 16. The method of claim 12, further comprising:  
2 transmitting, using a fourth tone, in said first sector during a seventh symbol time a  
3 seventh pilot signal having a seventh pre-selected transmission power which is different from  
4 said fifth pre-selected transmission power; and  
5 transmitting, using said fourth tone, in said second sector during an eighth symbol time,  
6 which overlaps said seventh symbol time, an eighth pilot signal having an eighth pre-selected  
7 transmission power which is the same as said seventh pre-selected transmission power.

1 17. The method of claim 16,  
2 wherein said first, second, third and fourth tones are different; and  
3 wherein said first, third, fifth and seventh symbol times are the same.

1 18. The method of claim 16,  
2 wherein the first, second, third and fourth tones are the same; and  
3 wherein said first, third, fifth and seventh symbol times are different.

1 19. The method of claim 16, wherein the first, fourth and sixth pre-selected transmission  
2 powers are the same.

1 20. The method of claim 19,  
2 wherein the second, third and fifth pre-selected transmission powers are zero; and  
3 wherein the said first, third, fifth and seventh symbol times are the same.

1 21. The method of claim 16, further comprising:  
2 repeating each of said transmitting steps according to a pre-selected repetition pattern.

1 22. The method of claim 1, wherein said multi-sector cell further includes a third sector, said  
2 third sector being located adjacent said second sector, the method further comprising:  
3 transmitting, using said first tone, in said third sector during a ninth symbol time a ninth  
4 pilot signal, said ninth symbol time overlapping said first and second symbol times, said ninth  
5 pilot signal being transmitted with the same transmission power as said first pilot signal.

1 23. The method of claim 1, wherein said multi-sector cell further includes a third sector, said  
2 third sector being located adjacent said second sector, the method further comprising:

3 transmitting, using said first tone, in said third sector during a ninth symbol time a ninth  
4 signal, which is one of control and data pilot signal, said ninth symbol time overlapping said  
5 first and second symbol times.

1 24. The method of claim 22, further comprising:

2 transmitting, using said second tone, in said third sector during a tenth symbol time a  
3 tenth pilot signal, said tenth symbol time overlapping said third and fourth symbol times, said  
4 tenth pilot signal being transmitted with the same transmission power as said third pilot signal.

1 25. The method of claim 24, further comprising:

2 transmitting, using said third tone, in said third sector during an eleventh symbol time an  
3 eleventh pilot signal, said eleventh symbol time overlapping said fifth and sixth symbol times,  
4 said eleventh pilot signal being transmitted with an eleventh pre-selected transmission power  
5 that is the same as the fifth pre-selected transmission power used to transmit the fifth and sixth  
6 pilots.

1 26. The method of claim 25, further comprising:

2 periodically repeating each of said transmitting steps.

1 27. A method of transmitting pilot signals in a multi-sector cell, the multi-sector cell  
2 including at least first, second and third sectors, each of the first, second and third sectors being  
3 located adjacent at least one other one of said first, second and third sectors in said cell, the  
4 method comprising:

5 transmitting during at least a portion of a first symbol time:

6 a first pilot on a first tone in the first sector using a first pre-selected transmission  
7 power;

8 a second pilot signal on the first tone in the second sector using a second pre-  
9 selected transmission power which is different from said first pre-selected amount of  
10 transmission power; and

11 a third pilot signal on the first tone in the third sector using a third pre-selected  
12 amount of transmission power.

- 1 28. The method of claim 27, wherein the first and third pre-selected amounts of transmission  
2 power are non-zero and are the same.
- 1 29. The method of claim 28, further comprising:  
2 transmitting during at least a portion of a second symbol time:  
3 a fourth pilot on a second tone in the first sector using a fourth pre-selected  
4 amount of transmission power;  
5 a fifth pilot on the second tone in the second sector using a fifth pre-selected  
6 amount of transmission power; and  
7 a sixth pilot on the second tone in the third sector using said fifth pre-selected  
8 amount of transmission power.
- 1 30. The method of claim 29,  
2 wherein said first and second symbol times are the same;  
3 wherein said first, third and fourth pilot signals are transmitted with the same amount of  
4 power; and  
5 wherein said second fifth and sixth pilot signals are NULL pilot signals transmitted with  
6 zero power.
- 1 31. The method of claim 29, further comprising:  
2 transmitting during at least a portion of a third symbol time:  
3 a seventh pilot on a third tone in the first sector using said first pre-selected  
4 amount of transmission power;  
5 an eighth pilot on the third tone in the second sector using an eighth pre-selected  
6 amount of transmission power; and  
7 a data symbol on the third tone in the third sector.
- 1 32. The method of claim 30, wherein the first, second and third tones are different and  
2 wherein the first second and third symbol times are the same.
- 1 33. An apparatus for transmitting pilot tones in a multi-sector cell, the apparatus comprising:  
2 a transmitter;

3 means for controlling said transmitter to transmit, using a first tone, in said first sector  
4 during a first symbol time a first pilot signal having a first pre-selected transmission power; and  
5 means for controlling said transmitter to transmit, using said first tone, in said second  
6 sector during a second symbol time, which overlaps said first symbol time, a second pilot signal  
7 having a second pre-selected transmission power which is different from said first pre-selected  
8 transmission power.

1 34. The apparatus of claim 33, further comprising:

2 means for controlling said transmitter to transmit, using a second tone, in said first sector  
3 during a third symbol time a third pilot signal having a third pre-selected transmission power;  
4 and

5 means for controlling said transmitter, using said second tone, in said second sector  
6 during a fourth symbol time, which overlaps said third symbol time, a fourth pilot signal having  
7 a fourth pre-selected transmission power which is different from said third pre-selected  
8 transmission power.

1 35. The method of claim 34, wherein said second pre-selected transmission power and said  
2 third pre-selected transmission power are the same.